

## CLAIMS

1. A terminal authenticating system wherein  
when a mobile terminal participates in a mobile  
5 network arranged inside a mobile body, a first  
authenticating server arranged at a place away  
from said mobile network can authenticate said  
mobile terminal, said terminal authenticating  
system being characterized in that a second  
10 authenticating server is arranged inside said  
mobile network, and even said second  
authenticating server can authenticate said mobile  
terminal.

15 2. The terminal authenticating system  
according to claim 1, characterized in that said  
second authenticating server has: authenticating  
means which can authenticate said mobile terminal;  
and information storing means which can store an  
20 authentication data to be referred when said  
mobile terminal is authenticated.

3. The terminal authenticating system  
according to claim 2, characterized in that an  
25 authentication request is transmitted from said

mobile terminal to said second authenticating server.

4. The terminal authenticating system  
5 according to claim 3, characterized in that said  
second authenticating server has connection  
judging means for judging whether or not a  
communication between said first authenticating  
server and said second authenticating server is  
10 possible, and when said second authenticating  
server receives said authentication request from  
said mobile terminal, if the communication with  
said first authenticating server is judged to be  
possible, sends said authentication request to  
15 said first authenticating server and receives an  
authentication result of said mobile terminal from  
said first authenticating server, and if the  
communication with said first authenticating  
server is judged to be impossible, uses said  
20 authenticating means and authenticates said mobile  
terminal.

5. The terminal authenticating system  
according to claim 4, characterized in that when  
25 sending said authentication request to said first

authenticating server and receiving the authentication result of said mobile terminal from said first authenticating server, said second authenticating server correlates an identification information of said mobile terminal and the authentication result of said mobile terminal and stores as said authentication data in said information storing means.

10 6. The terminal authenticating system according to claim 1, characterized in that said second authenticating server has connection judging means for judging whether or not a communication between said first authenticating server and said second authenticating server is possible, and said connection judging means judges whether or not a communication with said first authenticating server is possible, and if the communication with said first authenticating server is judged to be possible, said second authenticating server obtains said authentication data required to authenticate said mobile terminal from said first authenticating server at any timing and stores in said information storing means.

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7. The terminal authenticating system according to claim 6, characterized in that said second authenticating server obtains said authentication data from said first authenticating server at a predetermined timing and updates said authentication data stored in said information storing means.

10 8. The terminal authenticating system according to claim 3, characterized in that when said second authenticating server authenticates said mobile terminal and fails to authenticate said mobile terminal, said second authenticating server sends said authentication request to said first authenticating server and receives the authentication result of said mobile terminal from said first authenticating server.

20 9. The terminal authenticating system according to claim 3, characterized in that the authentication result carried out by said first authenticating server or said second authenticating server is reported to said mobile terminal transmitting said authentication request

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from said second authenticating server.

10. A terminal authenticating method wherein  
when a mobile terminal participates in a mobile  
5 network arranged inside a mobile body, a first  
authenticating server arranged at a place away  
from said mobile network can authenticate said  
mobile terminal, said terminal authenticating  
method being characterized in that a second  
10 authenticating server arranged inside said mobile  
network authenticates said mobile terminal.

11. The terminal authenticating method  
according to claim 10, characterized in that said  
15 mobile terminal transmits an authentication  
request to said second authenticating server.

12. The terminal authenticating method  
according to claim 11, characterized in that when  
20 said second authenticating server receives said  
authentication request from said mobile terminal  
and judges whether or not a communication between  
said first authenticating server and said second  
authenticating server is possible, and if the  
25 communication with said first authenticating

server is judged to be possible, sends said authentication request to said first authenticating server and receives an authentication result of said mobile terminal from said first authenticating server, and if the communication with said first authenticating server is judged to be impossible, said second authenticating server authenticates said mobile terminal.

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13. The terminal authenticating method according to claim 12, characterized in that when sending said authentication request to said first authenticating server and receiving the authentication result of said mobile terminal from said first authenticating server, said second authenticating server correlates and stores an identification information of said mobile terminal and the authentication result of said mobile terminal.

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14. The terminal authenticating method according to claim 11, characterized in that said second authenticating server judges whether or not a communication between said first authenticating

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server and said second authenticating server is possible, and if the communication with said first authenticating server is judged to be possible, obtains and stores said authentication data  
5 required to authenticate said mobile terminal from said first authenticating server at any timing.

15. The terminal authenticating method according to claim 14, characterized in that said  
10 second authenticating server obtains said authentication data from said first authenticating server at a predetermined timing and updates said authentication data stored in said second authenticating server.

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16. The terminal authenticating method according to claim 11, characterized in that when said second authenticating server authenticates said mobile terminal and fails to authenticate  
20 said mobile terminal, said second authenticating server sends said authentication request to said first authenticating server, and said first authenticating server carries out the authentication, and said first authenticating  
25 server transmits the authentication result of said

mobile terminal to said second authenticating server.

17. The terminal authenticating method  
5 according to claim 11, characterized in that said  
second authenticating server reports the  
authentication result carried out by said first  
authenticating server or said second  
authenticating server to said mobile terminal  
10 transmitting said authentication request.

18. A terminal authenticating server which,  
when a mobile terminal participates in a mobile  
network arranged inside a mobile body, can  
15 authenticate said mobile terminal, said terminal  
authenticating server being characterized in that  
it is arranged inside said mobile network, apart  
from a terminal authenticating server arranged at  
a place away from said mobile network.

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19. The terminal authenticating server  
according to claim 18, characterized by having:  
authenticating means which can authenticate said  
mobile terminal; and information storing means  
25 which can store an authentication data to be

referred when said mobile terminal is authenticated.

20. The terminal authenticating server  
5 according to claim 19, characterized by receiving  
an authentication request from said mobile  
terminal.

21. The terminal authenticating server  
10 according to claim 20, characterized in that it  
has connection judging means for judging whether  
or not a communication with the terminal  
authenticating server arranged at the place away  
from said mobile network is possible, and when  
15 receiving said authentication request from said  
mobile terminal, if the communication with said  
terminal authenticating server arranged at the  
place away from said mobile network is judged to  
be possible, it sends said authentication request  
20 to the terminal authenticating server arranged at  
the place away from said mobile network, and  
receives an authentication result of said mobile  
terminal from the terminal authenticating server  
arranged at the place away from said mobile  
25 network, and if the communication with the

terminal authenticating server arranged at the place away from said mobile network is judged to be impossible, it uses said authenticating means and authenticates said mobile terminal.

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22. The terminal authenticating server according to claim 21, characterized in that when receiving the authentication result of said mobile terminal from the terminal authenticating server arranged at the place away from said mobile network, it correlates an identification information of said mobile terminal and the authentication result of said mobile terminal and stores as said authentication data in said information storing means.

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23. The terminal authenticating server according to claim 18, characterized in that it has connection judging means for judging whether or not a communication with the terminal authenticating server arranged at the place away from said mobile network, and if the communication with the terminal authenticating server arranged at the place away from said mobile network is judged to be possible, it obtains said

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authentication data required to authenticate said mobile terminal from the terminal authenticating server arranged at the place away from said mobile network at any timing and stores in said information storing means.

24. The terminal authenticating server according to claim 23, characterized in that it obtains said authentication data from the terminal authenticating server arranged at the place away from said mobile network at a predetermined timing and updates said authentication data stored in said information storing means.

25. The terminal authenticating server according to claim 19, characterized in that when said authenticating means authenticates said mobile terminal and fails to authenticate said mobile terminal, it sends said authentication request to the terminal authenticating server arranged at the place away from said mobile network and receives the authentication result of said mobile terminal from said first authenticating server.

26. The terminal authenticating server  
according to claim 19, characterized in that the  
authentication result carried out by the terminal  
authenticating server arranged at the place away  
5 from said mobile network, or the authentication  
result carried out by the terminal authenticating  
server is reported to said mobile terminal  
transmitting said authentication request.